

Hail storms of less violence occurred in the various states and territories as follows:

*Alabama.*—Green Springs, 9th.

*Arizona.*—Fort Grant, 28th.

*California.*—Princeton, 4th; Los Angeles, 13th; Fort Bidwell, 23d.

*Colorado.*—West Las Animas, 5th, 6th, 9th, 16th; Pueblo, 9th, 16th, 20th; Denver, 14th; Pike's Peak, 27th, 28th, 30th.

*Dakota.*—Deadwood, 3d, 27th; Fort Bennett, 5th, 15th, 21st, 25th; Richardton, 6th, 14th; Fort Sully, 11th, 14th; Fort Yates, 17th; Fort Buford, 26th, 27th, 28th; Fort Lincoln, 28th; Bismarck, 28th.

*Georgia.*—Atlanta, 20th.

*Illinois.*—Polo, 1st, 18th; Chicago, 2d.

*Indiana.*—Spiceland, 1st; Indianapolis, 9th; Clinton, 24th.

*Iowa.*—Indianola, 13th.

*Kansas.*—Dodge City, 6th; Wyandotte, 7th, 8th, 13th; Sherlock, 11th; Salina, 25th.

*Maine.*—Portland, 6th.

*Massachusetts.*—Taunton, 7th.

*Michigan.*—Marshall, 24th.

*Missouri.*—Saint Louis, 3d, 8th.

*Montana.*—Fort Custer, 5th, 10th; Fort Assinaboine, 13th, 28th; Fort Ellis, 27th.

*Nebraska.*—Red Willow, 11th, 25th; Yutan, De Soto, and Marquette, 25th; North Platte, 30th.

*New Hampshire.*—Mount Washington, 3d, 6th, 7th.

*New Mexico.*—Fort Union, 30th.

*New York.*—Humphrey, 9th.

*North Carolina.*—Statesville, 11th; Brevard, 21st.

*Ohio.*—Westerville, 2d.

*Pennsylvania.*—Wellsborough 24th.

*Tennessee.*—Ashwood, 7th.

*Texas.*—Fort Concho, 2d; Cleburne, 2d, 3d; Clarksville, 8th; Fort Stockton, 12th.

*Vermont.*—Charlotte and Lunenburg, 6th.

*Virginia.*—Norfolk, 8th; Wytheville, 10th.

*Washington Territory.*—Bainbridge Island, 3d.

*Wisconsin.*—Embarras, 8th.

#### RAIN FROM A CLOUDLESS SKY.

Mr. A. C. Willsams, of Elk Falls, Elk County, Kansas, reports that rain fell from a cloudless sky at that place on the 16th.

*Table of rainy and cloudy days, relative humidity, and dew-point for June, 1884.*

Districts.	Rainy days.	Cloudy days.	Rel. humidity. %	Dew-point.
			Percentages.	
New England.....	From 5 to 7	From 2 to 7	From 66.0 to 83.8	From 57.1 to 57.1
Middle Atlantic states.....	" 4 " 14	" 3 " 12	" 58.0 " 85.4	" 55.9 " 64.2
South Atlantic states.....	" 9 " 21	" 6 " 16	" 74.7 " 84.9	" 61.5 " 69.3
Florida peninsula.....	" 10 " 21	" 3 " 5	" 74.2 " 78.6	" 69.0 " 72.5
East Gulf states.....	" 13 " 19	" 4 " 11	" 72.4 " 79.1	" 66.6 " 69.2
West Gulf states.....	" 6 " 12	" 0 " 4	" 73.7 " 80.7	" 65.8 " 72.8
Rio Grande valley.....	" 1 " 11	" 1 " 2	" 62.9 " 80.2	" 69.9 " 72.3
Ohio valley.....	" 9 " 12	" 6 " 12	" 64.6 " 76.6	" 59.7 " 65.8
Tennessee.....	" 17 " 19	" 10 " 13	" 75.7 " 80.7	" 62.4 " 65.2
Lower lake region.....	" 4 " 13	" 1 " 7	" 67.4 " 73.7	" 55.2 " 60.3
Upper lake region.....	" 6 " 15	" 2 " 8	" 66.9 " 78.4	" 47.5 " 56.8
Extreme northwest.....	" 7 " 10	" 2 " 8	" 60.0 " 78.8	" 52.8 " 60.7
Upper Mississippi valley.....	" 11 " 18	" 4 " 12	" 68.7 " 82.9	" 58.6 " 67.7
Missouri valley.....	" 7 " 10	" 1 " 4	" 67.4 " 75.4	" 59.3 " 63.6
Northern slope.....	" 7 " 16	" 1 " 9	" 51.5 " 70.4	" 40.7 " 59.3
Middle slope.....	" 9 " 13	" 0 " 4	" 53.4 " 74.2	" 47.2 " 62.3
Southern slope.....	" 6 " 14	" 1 " 3	" 57.6 " 67.9	" 53.6 " 64.3
Southern plateau.....	" 2 " 8	" 1 " 5	" 24.9 " 59.7	" 33.0 " 43.4
Northern plateau.....	" 7 " 18	" 7 " 8	" 60.7 " 67.4	" 49.2 " 55.6
North Pacific coast region.....	" 14 " 16	" 11 " 18	" 67.3 " 86.9	" 50.0 " 51.2
Middle Pacific coast region.....	" 7 " 10	" 6 " 14	" 59.4 " 85.5	" 50.2 " 55.1
South Pacific coast region.....	" 0 " 6	" 1 " 13	" 41.9 " 78.4	" 52.6 " 57.1
Mt. Washington, N. H.....	Thirteen	Two	78.2	41.7
Pike's Peak, Colo.....	Ten	Three	79.7	25.0
Salt Lake City, Utah.....	Four	Two	39.4	41.0

\* Relative humidity corrected for altitude.

#### COTTON REGION REPORTS.

From the following table it will be seen that the precipitation for June, 1884, in the cotton regions exceeded the average for the same month in the two preceding years, in all of the districts, except that of New Orleans, where a deficiency of 1.35

is shown. For the district of Atlanta the excess is nearly six inches, and it exceeds two inches in the districts of Savannah, Montgomery, and Mobile; in the remaining districts the excesses varied from about normal for Vicksburg to 1.68 inches for Augusta. The means of the maximum and minimum temperatures were generally lower by from 1° to 6° in all districts.

*Temperature and rainfall data for the cotton districts, June.*

Districts.	Rainfall.			Temperature.						Extremes for June, 1884.	
	Average for June of two preceding years.	Average for June, 1884.	Departures.	Maximum.			Minimum.				
				Mean for June of two preceding years.	Mean for June, 1884.	Departures.	Mean for June of two preceding years.	Mean for June, 1884.	Departures.		
New Orleans...	5.54	4.19	- 1.35	90.4	89.4	- 1.0	72.1	68.1	- 4.0	102	53
Savannah.....	4.55	5.05	+ 2.60	90.5	85.7	- 4.8	70.8	65.1	- 5.7	106	41
Charleston.....	4.88	6.28	+ 1.40	90.3	84.9	- 5.3	68.3	64.8	- 3.4	98	48
Atlanta.....	3.36	9.13	+ 5.77	88.7	82.5	- 6.2	66.8	62.6	- 4.2	98	48
Wilmington.....	4.54	9.01	+ 4.47	89.4	84.4	- 5.0	66.4	62.5	- 3.9	100	44
Memphis.....	3.71	5.29	+ 1.58	80.3	83.3	+ 3.0	67.1	65.4	- 1.7	100	50
Galveston.....	3.25	3.58	+ 1.47	92.9	90.6	- 2.3	71.3	67.9	- 3.4	100	50
Vicksburg.....	3.44	3.54	+ 0.10	91.0	87.7	- 3.3	69.4	67.5	- 1.9	98	57
Montgomery.....	4.26	7.15	+ 2.89	90.4	85.2	- 5.2	69.4	64.0	- 5.4	101	45
Augusta.....	4.66	6.34	+ 1.68	90.4	85.2	- 5.2	68.3	63.6	- 4.7	103	43
Little Rock.....	2.55	3.25	+ 0.70	90.6	87.7	- 2.9	65.1	65.8	+ 0.7	103	46
Mobile.....	3.57	6.30	+ 2.73	93.6	87.9	- 5.7	69.2	66.5	- 2.7	100	46

#### WINDS.

The most frequent directions of the wind for the month of June, 1884, are shown on chart ii. by arrows flying with the wind. In western New York, New England, and on the middle Atlantic coast the most frequent directions were from south to west; in the southern slope, along the immediate Gulf coast, in the Missouri valley and extreme northwest, they were generally from the south; in the lake region, upper Mississippi and Ohio valleys, and Tennessee, they were from northeast to southeast; on the Pacific coast, from north to west.

#### TOTAL MOVEMENTS OF THE AIR.

[In miles.]

In the following table are given the stations reporting the largest and smallest total movements of the air in each of the various districts:

Districts.	Stations reporting largest.	Miles.	Stations reporting smallest.	Miles.
New England.....	Block Island, R. I.....	8,816	Eastport, Maine.....	3,341
Middle Atlantic states.....	Del. Breakwater, Del.....	11,441	Lynchburg, Va.....	2,053
South Atlantic states.....	Kitty Hawk, N. C.....	10,268	Augusta, Ga.....	2,929
Florida peninsula.....	Pedar Keys.....	6,885	Sanford.....	4,627
Eastern Gulf states.....	Pensacola, Fla.....	5,401	Vicksburg, Miss.....	3,675
Western Gulf states.....	Indianola, Tex.....	6,217	Fort Smith, Ark.....	2,466
Rio Grande valley.....	Rio Grande City, Tex.....	5,294	Brownsville, Tex.....	4,459
Tennessee.....	Nashville.....	3,524	Chattanooga.....	3,034
Ohio valley.....	Louisville, Ky.....	3,995	Cincinnati, Ohio.....	3,078
Lower lake region.....	Sandusky, Ohio.....	8,150	Toledo, Ohio.....	3,484
Upper lake region.....	Escanaba, Mich.....	5,770	Marquette, Mich.....	3,974
Extreme northwest.....	Moorhead, Minn.....	8,632	Bismarck, Dak.....	5,804
Upper Mississippi valley.....	Saint Louis, Mo.....	6,581	Keokuk, Iowa.....	2,077
Missouri valley.....	Huron, Dak.....	6,728	Leavenworth, Kans.....	2,389
Northern slope.....	Fort Assinaboine, Mont.....	7,250	Deadwood, Dak.....	4,124
Middle slope.....	Dodge City, Kan.....	7,556	West Las Animas.....	5,174
Southern slope.....	Fort Stockton, Tex.....	6,661	Fort Davis, Tex.....	4,358
Southern plateau.....	Fts. Grant & Verde, Ariz.....	5,028	El Paso, Tex.....	3,116
Middle Plateau.....	Salt Lake City, Utah.....	4,875		
Northern plateau.....	Dayton, Wash. T.....	3,777	Lewistown, Idaho.....	1,010
North Pacific coast region.....	Fort Canby, Wash. T.....	6,574	Olympia, Wash. T.....	1,300
Middle Pacific coast region.....	Cape Mendocino, Cal.....	12,665	Red Bluff, Cal.....	4,733
South Pacific coast region.....	San Diego, Cal.....	4,478	Yuma, Ariz.....	3,553

On the summits of Mount Washington, New Hampshire, and Pike's Peak, Colorado, the total movements of the air were 19,090 and 13,244 miles, respectively.

#### HIGH WINDS.

On the summit of Mount Washington, New Hampshire, maximum velocities of fifty miles or more per hour occurred as follows: 60, nw., 4th; 50, nw., 5th; 64, nw., 7th; 56, nw., 8th; 64, w., 9th; 69, nw., 13th; 72, nw., 16th; 74, nw., 21st; 68, sw., 24th; 68, sw., 25th.

The following high velocities were reported from Pike's Peak, Colorado: 64, sw., 10th; 78, sw., 11th; 92, sw., 12th; 60, sw., 13th; 60, s., 14th; 70, w., 16th; 66, w., 24th; 52, w., 26th.